

ABSTRACT OF THE DISCLOSURE

A semiconductor device includes a trench formed in a substrate, and a diffusion region surrounding the trench to form a buried plate. A first conductive material is formed in the trench and connects to the buried plate through a bottom of the trench to form a first electrode. A second conductive material is disposed in the trench to form a second electrode. A node dielectric layer is formed between the first electrode and the second electrode.

10